

PRELIMINARY AMENDMENT
CHAPTER II of PCT/AU99/01048

IN THE ABSTRACT:

Please insert the Abstract attached hereto.

REMARKS

The specification has been amended to insert formal matter, Claim 1-14 has been cancelled and presented as new Claims 15-32 for clarification purposes only, and the Abstract has been inserted in order to make the application consistent with U.S. patent practice. Hence, the amendment of the specification, the cancellation of Claims 1-14, the addition of new Claims 15-32 and the Abstract do not constitute new matter.

In view of the amendments to the specification, the cancellation of Claims 1-14, the addition of new Claims 15-23 therefor and the insertion of the Abstract, allowance is respectfully requested.

The Examiner is invited to contact the undersigned at his Washington telephone number on any questions which might arise.

Respectfully submitted,


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A P P E N D I X

Marked-up Version of Amended Specification

IN THE CLAIMS:

Claims 1-14 are cancelled.

New Claims 15-32 are added as follows:

-- Claim 15. A method for cryopreservation of oocytes or embryos, which comprises the steps of:

- (A) centrifuging oocytes or embryos to polarize cytoplasmic lipid outside of cells constituting said oocytes or embryos;
- (B) subjecting the resulting lipid polarized oocytes or embryos to low temperature conditions sufficient to freeze the oocytes or embryos prior to lipid depolarization, wherein said subjecting is carried out in the presence of a cryoprotectant agent; and
- (C) storing the resulting frozen lipid polarized oocytes or embryos at a low temperature to obtain cryopreserved oocytes or embryos.

Claim 16. The method of Claim 15, wherein said embryos are zona intact embryos.

Claim 17. The method of Claim 15, wherein said oocytes or embryos are obtained from a companion animal or domestic/livestock animal.

Claim 18. The method of Claim 17, wherein said companion animal is a dog or cat.

Claim 19. The method of Claim 17, wherein said domestic/livestock animal is selected from the group consisting of a horse, cow, sheep, goat, llama and alpaca.

Claim 20. The method of Claim 17, wherein said oocytes or embryos are porcine oocytes or porcine embryos.

Claim 21. The method of Claim 15, wherein said embryos are vitrified in the presence of a solution comprising one or more cryoprotectant agent.

Claim 22. The method of Claim 21, wherein said cryoprotectant agent is selected from the group consisting of dimethylsulfoxide, propylene glycol, ethylene glycol, glycerol, PVP, sucrose, trehalose, Ficoll, acetamide and egg yolk.

Claim 23. A method for producing live animals from embryos which comprises the steps of:

- (A) thawing a cryopreserved zona intact embryo obtained by the method of Claim 16; and
- (B) introducing the resulting thawed embryo into the uterus or fallopian tube of a pregnancy competent female pig such that said female pig becomes pregnant with said embryo, wherein after a pregnancy term, the resulting pregnant female pig gives birth to a live piglet.

Claim 24. An animal produced from a cryopreserved oocyte or embryo obtained by the method of Claim 15.

Claim 25. A piglet obtained by the method of Claim 23.

Claim 26. The animal of Claim 24, wherein said animal is a pig.

Claim 27. A cryopreserved oocyte or embryo obtained by the method of Claim 15.

Claim 28. The method of Claim 21, wherein said embryos are vitrified by freezing in liquid nitrogen.

Claim 29. The method of Claim 28, wherein said oocytes or embryos are frozen in a freezing vessel.

Claim 30. The method of Claim 29, wherein said freezing vessel is a cryologic vial or freezing straw.

Claim 31. The method of Claim 30, wherein said freezing straw is an open pulled straw in which the oocytes or embryos are located by capillary action.

Claim 32. The method of Claim 16, wherein said embryos are in the morulae to mid-blastocyst stage. --

[illegible]